

REMARKS

Applicants submit this RCE in response to the Office Action (final rejection) mailed September 7, 2005. Reconsideration of the application in view of the claim amendments set forth herein and the following remarks is respectfully requested.

1. Information Disclosure Statement

Applicants note the examiner's indication that the noted non-patent literature may be resubmitted without fee. Applicants will attempt to reassemble the previously submitted non-patent literature for submission to the Patent Office. However, at present, copies of the previously submitted materials are not readily available.

2. Claim Amendments

Applicants have amended independent claims 1 and 16, without prejudice, to more clearly recite the subject matter of the presently claimed invention. Support for the amendment to independent claim 1 – in the absence of a sterilizing agent – is found in the specification as originally filed (see, e.g., page 13, line 1 *et seq.*). Support for the amendment to independent claim 16 – planar surface geometry – is also found in the specification as originally filed (see, e.g., page 21, line 14 *et seq.*; Figs. 1, 2 and 4). Applicants have also canceled dependent claims 7 and 18, without prejudice. Applicants expressly reserve the right to pursue the subject matter of the canceled claims in future patent filings and/or claim amendments.

3. Response to Outstanding Art Rejections

Claims 16-19 stand rejected under 35 USC § 102(b) based on commonly assigned U.S. Patent No. 5,834,784 to Morgan et al. (the "Morgan '784 patent"). In addition, the following obviousness rejections are advanced in the outstanding Office Action under 35 USC § 103(a):

- Claims 1, 2, 4-6, 8, 9 and 16-20 are rejected based on U.S. Patent No. 5,730,934 to Holbert et al. (the "Holbert '934 patent") or U.S. Patent No. 5,843,374 to Sizer et al. (the "Sizer '374 patent") in view of the Morgan '784 patent;
- Claims 1-6, 8, 9 and 16-20 are rejected based on U.S. Patent No. 5,433,738 to Stinson (the "Stinson '738 patent") in view of the Morgan '784 patent; and
- Claims 1, 2, 5-9 and 16-21 are rejected based on U.S. Patent No. 3,986,513 to Stuhl (the "Stuhl '513 patent") in view of the Stinson '738 patent, U.S. Patent No. 6,447,537 to Hartman (the "Hartman '537 patent") and the Morgan '784 patent.

Reconsideration is respectfully requested.

With initial reference to the anticipation rejection of claims 16, 17 and 19 (claim 18 has been canceled), applicants respectfully submit that the Morgan '784 patent fails to teach or suggest a system for treating complex fluids wherein, *inter alia*, the light emitting surface geometry is planar and wherein the treatment surface geometry substantially conforms to such planar surface geometry. To the contrary, the Morgan '784 patent teaches a series of cylindrical structures/surfaces as between light emission and fluid treatment. Applicants respectfully submit that the claimed treatment system patentably distinguishes over all art of record, including specifically the Morgan '784 patent.

Turning to the outstanding obviousness rejections, applicants initially note with reference to claims 16, 17 and 19-21 that none of the cited references, whether taken alone or in combination, teach or suggest a treatment system wherein a planar light emitting surface is defined, and further wherein a treatment surface geometry substantially conforms with such planar light emitting surface. The disclosed planar/planar arrangement offers substantial benefits for various treatment applications, wherein monochromatic light is generated and directed to a treatment surface for treatment purposes, e.g., sterilization. Accordingly, applicants respectfully submit that claims 16, 17 and 19-21 patentably distinguish over the cited references, whether taken alone or in combination in the manner proposed by the Examiner. Reconsideration and prompt allowance of claims 16, 17 and 19-21 are respectfully requested.

With reference to claims 1-6 and 8-9, applicants respectfully submit that the prior art references fail to teach or suggest applicants' claimed system because, *inter alia*:

- The Holbert '934 patent does not contemplate sterilization of a fluid. Rather, fluid passes through the lamp to serve a cooling function. Moreover, the Holbert '934 patent contemplates sterilization of a packaging through activation of a photo-activated sterilant, e.g., hydrogen peroxide. The Holbert '934 patent is inapposite for purposes of a treatment system wherein a complex fluid is sterilized through exposure to monochromatic light in the absence of a sterilizing agent, such that potentially damaging temperature changes to a sensitive component associated with the complex fluid is prevented.
- The Sizer '374 patent also fails to contemplate sterilization of a fluid. Rather, like the Holbert '934 patent, the Sizer '374 patent is directed to packaging sterilization systems. Applicants acknowledge that the Sizer '374 patent discloses an embodiment wherein a

U-shaped tube is provided with cooling fluid interior to the shell. However, none of the disclosed Sizer implementations, including specifically such U-shaped tube embodiment, teaches or suggests sterilization of a complex fluid through exposure to monochromatic light in the absence of a sterilizing agent, such that potentially damaging temperature changes to a sensitive component associated with the complex fluid is prevented.

- The Stinson '738 patent fails to teach or suggest a system wherein, inter alia, a cooling liquid is brought into thermal communication with a light emitting surface that is distinct from the complex fluid. The Stinson '738 patent contemplates a ventilation fan that would be wholly ineffective for purposes of the system disclosed and claimed by applicants wherein a complex fluid is sterilized through exposure to monochromatic light, such that potentially damaging temperature changes to a sensitive component associated with the complex fluid is prevented.
- The Stuhl '513 and Hartman '537 patents are directed to a systems that differ in significant respects relative to applicants' claimed system, wherein a complex fluid is sterilized through exposure to monochromatic light in the absence of a sterilizing agent, and a cooling fluid (distinct from the complex fluid) is in thermal communication with a light emitting surface, such that potentially damaging temperature changes to a sensitive component associated with the complex fluid is prevented.

The proposed combination of the foregoing patents with the Morgan '784 patent is untenable for at least the following reasons. The lamps employed in the Holbert '934 and Sizer '374 patents were specifically chosen for their ability to excite hydrogen peroxide at 222 nm. A skilled artisan would not have been motivated to combine the teachings of the Holbert/Sizer patents with the Morgan '784 patent, in the manner proposed by the Examiner, because, inter alia, the application of a different wavelength of light for sterilization of a fluid, e.g., a complex fluid, would have resulted in inadequate sterilization of the container surface since the longer wavelength lamps are not efficacious in exciting hydrogen peroxide. Moreover, any attempt to combine the Holbert/Sizer systems with the Morgan system would necessarily require turbulent flow (and likely a transparent fluid) to achieve sterilization thereof. Turbulent flow would obviously risk significant damage to the complex fluids for which applicants' disclosed and claimed system is advantageously designed.

In short, there is simply no motivation to combine the Holbert/Sizer systems and the Morgan system to arrive at a treatment system for complex fluids of the type disclosed and claimed by applicants. Moreover, the proposed combination of Holbert/Sizer and Morgan would yield a system that would be ineffective and/or inefficient for sterilization of complex fluids. The packaging sterilization systems of the Holbert and Sizer patents – which rely on a sterilizing agent to achieve desired sterilization effects – would not motivate a person of ordinary skill in the art to seek a treatment system for complex fluids that is effective in the absence of a sterilizing agent. Similarly, the proposed combination of the Stinson, Stuhl, Hartman and/or Morgan patents fails to teach or suggest applicants' claimed treatment system, as recited in claims 1-6 and 8-9.

Reconsideration and prompt allowance of claims 1-6 and 8-9 are respectfully requested.

4. Conclusion

Applicants respectfully submit that all claims are now in condition for allowance and prompt action leading to an early Notice to that effect is earnestly solicited. If the examiner believes a telephone communication might be useful in advancing prosecution of this application, the examiner is invited to contact the undersigned representative of applicant.

Respectfully submitted,

Date: March 7, 2006



Basam E. Nabulsi
Reg. No. 31,645
Attorney for Applicants

McCARTER & ENGLISH, LLP
Four Stamford Plaza, 107 Elm Street
Stamford, CT 06902
Phone: (203) 965-0601
Fax: (203) 323-6513

I hereby certify that this correspondence is being deposited with the United States Postal Service first class mail in an envelope addressed to:
Mail Stop RCE, Commissioner for Patents,
P.O. Box 1450, Alexandria, VA 22313-1450
on 3/7/06

(Date of Deposit)

Basam E. Nabulsi
Name of applicant, assignee, or
Registered Representative

Basam E. Nabulsi
Signature

3/7/06
Date of Signature